Sumas 2 Generation Facility

Application Filed with EFSEC:

On January 11, 1999, the Washington State Energy Facility Site Evaluation Council (EFSEC) received an application from Sumas Energy 2, Inc. to construct and operate the Sumas 2 Generation Facility (S2GF), a natural gas-fired 720 megawatt (MW) combustion turbine project proposed for Sumas, Washington. The project also includes a proposed natural gas pipeline in Whatcom County. EFSEC is the state agency with jurisdiction for siting and regulating thermal generation facilities that exceed 250 megawatts. EFSEC has taken lead agency status pursuant to its rules and the State Environmental Policy Act.

General Description of the Project:

The Sumas 2 Generation Facility (S2GF) is a 720 MW natural gas-fired electrical generation facility proposed by Sumas Energy. S2GF is much like the company's existing 125 MW Sumas Cogeneration Company LP No. 1 Generation Facility (SCCLP), that adjoins the proposed site. The S2GF design includes two separate but identical combustion turbines, two steam turbines, two generators and two heat recovery steam generators. Each combustion turbine discharges hot exhaust gases to the heat recovery steam generator, which produces reheat steam flows to high, intermediate and low pressure sections of the steam turbines. The capacity of each combustion and steam turbine will be 360 MW, yielding a total plant capacity of 720 MW.

Water for the cooling of S2GF exhaust gases will come from the City of Sumas. The City of Sumas will supply part of the water from existing City well fields, and the remainder will be purchased from the City of Abbotsford. Wastewater discharge from the project will be collected by the City of Sumas and will be piped to Abbotsford for treatment and discharge through the Joint Abbotsford Mission Environmental System wastewater treatment plant in Abbotsford.

A new natural gas pipeline will be constructed immediately adjacent to the existing gas pipeline that serves SCCLP, beginning at the U.S./Canadian border approximately 5 miles east of the site. The gas line will be bored under the Sumas River and Johnson Creek. Natural gas will be imported from Canada to fuel the project.

A new 230 kV electrical transmission line will be constructed from the site to the U.S./Canadian border, approximately ¼ mile north of the site. This line will parallel existing railroad lines and Bob Mitchell Way in Sumas. Generation from the facility will flow north one-half-mile to the U.S./Canadian border and interconnect with the British Columbia (BC) Hydro transmission system. The line will continue approximately 5 miles (8km) to the Clayburn substation in Abbotsford. No firm customer has been identified for the power to date. BC Hydro is currently evaluating the capacity of their system to reliably handle the 720 MW of power.

General Description of the Proposed Site:

The project site is located in the industrial zone in the City of Sumas, north of State Highway 9 west of downtown. Surrounding uses include the Socco Lumber Company and the existing Sumas No. 1 cogeneration facility. Access to the site will be by way of the frontage road directly north of Highway 9.

Construction:

Project construction is scheduled to start in late 1999, assuming that the State's Expedited Processing is granted and permits are issued on schedule. It will begin with site loading and raising with 153,000 yards of fill to increase its elevation above the 100 year floodplain. The fill will be brought in by truck.

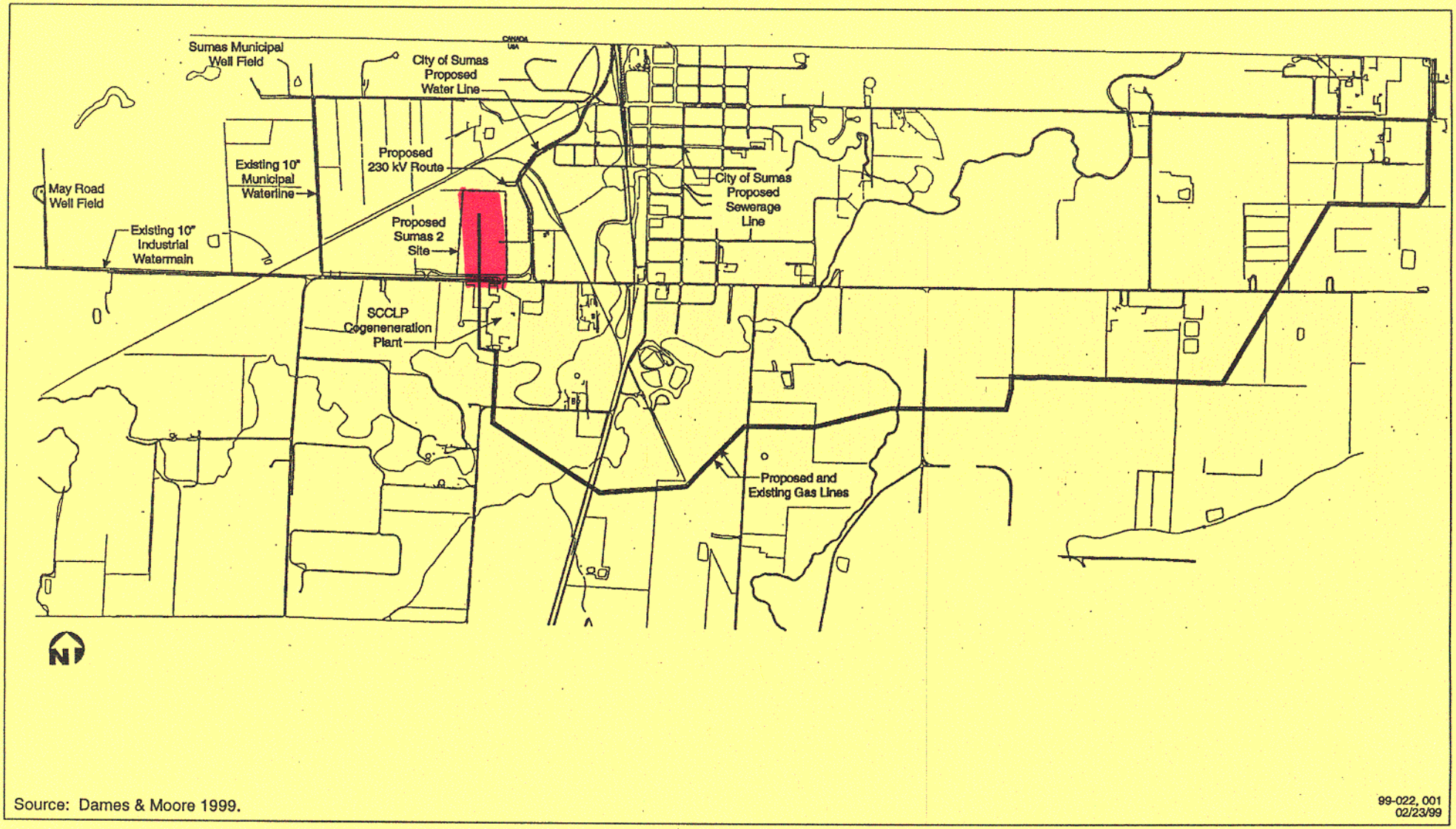
Facility construction is scheduled to begin in late 1999 or early 2000 with an average construction work force of approximately 350-400 workers over 10 months. The entire on-site construction program will take 22 months after the initial loading period. The applicant has assumed that operation would begin late in 2001.

Operation

The project will have air and water emissions, and consume various resources including water and natural gas, when it is operating at the full power generation of 720 MW. For example, maximum water demand is 2,800 gallons per minute (gpm) about 4 million gallons per day (mgd). Most of this is lost as evaporation and drift (2420 gpm, 3.5 mgd). Wastewater from the plant will be 350 gpm (0.5 mgd) at maximum flow. Air emissions will include oxides of nitrogen (NO_x) for which Best Available Control Technology (BACT) is required, and carbon dioxide which is not regulated. The actual NO_x emission rate for the project has not been determined. The plant will employee 23 permanent employees. Although close to the existing cogeneration plant to the south, the Sumas 2 project will have its own water supply, wastewater discharge, natural gas supply, electrical transmission line, operational employment and destination for the power (BC Hydro).

Schedule:

The ultimate schedule and approval of the project is linked to the outcome of the request for Expedited Processing and permit decisions by EFSEC and others. If Expedited Processing is granted, and permits are granted subsequent to that decision, the general construction and operation schedule discussed above may be followed. If Expedited Processing is denied, it is likely that the project schedule would be extended by as much as a year. Various permitting issues could also affect schedule if they arise and are not resolved.



Source: Dames & Moore 1999.

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Project Vicinity Map